SEQUENCE LISTING

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Yamashita Toshihide
Tanaka, Hiroyuki
Higuchi, Haruhisa

<120> COMPOSITION AND METHOD FOR NERVE REGENERATION

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<140> US 10/551,157
<141> 2004-03-26

<150> PCT/JP2004/004385
<151> 2004-03-26

<150> JP 2003-092923
<151> 2003-03-28

<150> JP 2003-125681
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<212> PRT
<213> Homo sapiens

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35 40 45
Leu Gly Glu Gly Val Ala Gln Pro Cys Gly Ala Asn Gln Thr Val Cys
50 55 60
Glu Pro Cys Leu Asp Ser Val Thr Phe Ser Asp Val Val Ser Ala Thr
65 70 75 80
Glu Pro Cys Lys Pro Cys Thr Glu Cys Val Gly Leu Gln Ser Met Ser
85 90 95
Ala Pro Cys Val Glu Ala Asp Asp Ala Val Cys Arg Cys Ala Tyr Gly
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Tyr Tyr Gln Asp Glu Thr Thr Gly Arg Cys Glu Ala Cys Arg Val Cys
115 120 125
Glu Ala Gly Ser Gly Leu Val Phe Ser Cys Gln Asp Lys Gln Asn Thr
130 135 140
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145 150 155 160
Val Asp Pro Cys Leu Pro Cys Thr Val Cys Glu Asp Thr Glu Arg Gln
165 170 175

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Gly Arg Trp Ile Thr Arg Ser Thr Pro Pro Glu Gly Ser Asp Ser Thr
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Pro Val Val Thr Arg Gly Thr Thr Asp Asn Leu Ile Pro Val Tyr Cys
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Ser Ile Leu Ala Ala Val Val Val Gly Leu Val Ala Tyr Ile Ala Phe
            260                 265                 270
Lys Arg Trp Asn Ser Cys Lys Gln Asn Lys Gln Gly Ala Asn Ser Arg
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Pro Val Asn Gln Thr Pro Pro Pro Glu Gly Glu Lys Leu His Ser Asp
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Ser Gly Ile Ser Val Asp Ser Gln Ser Leu His Asp Gln Gln Pro His
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Thr Gln Thr Ala Ser Gly Gln Ala Leu Lys Gly Asp Gly Gly Leu Tyr
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Ser Ser Leu Pro Pro Ala Lys Arg Glu Glu Val Glu Lys Leu Leu Asn
            340                 345                 350
Gly Ser Ala Gly Asp Thr Trp Arg His Leu Ala Gly Glu Leu Gly Tyr
        355                 360                 365
Gln Pro Glu His Ile Asp Ser Phe Thr His Glu Ala Cys Pro Val Arg
    370                 375                 380
Ala Leu Leu Ala Ser Trp Ala Thr Gln Asp Ser Ala Thr Leu Asp Ala
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Arg Lys Tyr Lys Glu Ala Leu Leu Gly Arg Val Ala Val Ser Ala Asp
    50                  55                  60
Pro Asn Val Pro Asn Val Val Val Thr Gly Leu Thr Leu Val Cys Ser
65                  70                  75                  80
Ser Ala Pro Gly Pro Leu Glu Leu Asp Leu Thr Gly Asp Leu Glu Ser
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Phe Lys Lys Gln Ser Phe Val Leu Lys Glu Gly Val Glu Tyr Arg Ile
            100                 105                 110
Lys Ile Ser Phe Arg Val Asn Arg Glu Ile Val Ser Gly Met Lys Tyr
        115                 120                 125
Ile Gln His Thr Tyr Arg Lys Gly Val Lys Ile Asp Lys Thr Asp Tyr
    130                 135                 140
Met Val Gly Ser Tyr Gly Pro Arg Ala Glu Glu Tyr Glu Phe Leu Thr
145                 150                 155                 160
Pro Val Glu Glu Ala Pro Lys Gly Met Leu Ala Arg Gly Ser Tyr Ser
                165                 170                 175
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<212> DNA
<213> Rattus norvegicus

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<211> 626
<212> PRT
<213> Rattus norvegicus

<400> 8

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        35                  40                  45
Glu Leu Arg Pro Ala Val Val His Gly Val Trp Tyr Phe Asn Ser Pro
    50                  55                  60
Tyr Pro Lys Asn Tyr Pro Pro Val Val Phe Lys Ser Arg Thr Gln Val
65                  70                  75                  80
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            100                 105                 110
Gly Lys Tyr Tyr Phe Arg Gly Asp Leu Gly Gly Tyr Asn Gln Tyr Thr
        115                 120                 125
Phe Ser Glu His Ser Val Leu Asp Ile Ile Asn Thr Pro Asn Ile Val
    130                 135                 140
Val Pro Pro Glu Val Val Ala Gly Thr Glu Val Glu Val Ser Cys Met
145                 150                 155                 160
Val Pro Asp Asn Cys Pro Glu Leu Arg Pro Glu Leu Ser Trp Leu Gly
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His Glu Gly Leu Gly Glu Pro Thr Val Leu Gly Arg Leu Arg Glu Asp
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Glu Gly Thr Trp Val Gln Val Ser Leu Leu His Phe Val Pro Thr Arg
        195                 200                 205
Glu Ala Asn Gly His Arg Leu Gly Cys Gln Ala Ala Phe Pro Asn Thr
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Thr Leu Gln Phe Glu Gly Tyr Ala Ser Leu Asp Val Lys Tyr Pro Pro
225                 230                 235                 240
Val Ile Val Glu Met Asn Ser Ser Val Glu Ala Ile Glu Gly Ser His
                245                 250                 255
Val Ser Leu Leu Cys Gly Ala Asp Ser Asn Pro Pro Pro Leu Leu Thr
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Trp Met Arg Asp Gly Met Val Leu Arg Glu Ala Val Ala Glu Ser Leu
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Cys Leu Ala Glu Asn Ala Tyr Gly Gln Asp Asn Arg Thr Val Glu Leu
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Ala Val Glu Gly Glu Thr Val Ser Ile Leu Cys Ser Thr Gln Ser Asn
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Pro Asp Pro Ile Leu Thr Ile Phe Lys Glu Lys Gln Ile Leu Ala Thr
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Val Ile Tyr Glu Ser Gln Leu Gln Leu Glu Leu Pro Ala Val Thr Pro
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Val Val Lys Ser Asn Pro Glu Pro Ser Val Ala Phe Glu Leu Pro Ser
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Gln Ser Leu Glu Leu Pro Phe Gln Gly Ala His Arg Leu Met Trp Ala
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Lys Ile Gly Pro Val Gly Ala Val Val Ala Phe Ala Ile Leu Ile Ala
        515                 520                 525
Ile Val Cys Tyr Ile Thr Gln Thr Arg Arg Lys Lys Asn Val Thr Glu
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Glu Phe Arg Ile Ser Gly Ala Pro Asp Lys Tyr Glu Ser Glu Lys Arg
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Leu Gly Ser Glu Arg Arg Leu Leu Gly Leu Arg Gly Glu Pro Pro Glu
            580                 585                 590
Leu Asp Leu Ser Tyr Ser His Ser Asp Leu Gly Lys Arg Pro Thr Lys
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Val Lys
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<212> DNA
<213> Mus musculus

<400> 9

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Asp Leu Glu Glu Leu Glu Val Leu Glu Arg Lys Pro Ala Ala Gly Leu
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Ser Ala Ala Pro Val Pro Pro Ala Ala Ala Pro Leu Leu Asp Phe Ser
65 70 75 80
Ser Asp Ser Val Pro Pro Ala Pro Arg Gly Pro Leu Pro Ala Ala Pro
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Pro Thr Ala Pro Glu Arg Gln Pro Ser Trp Glu Arg Ser Pro Ala Ala
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Ser Pro Leu Ala Glu Pro Ala Ala Pro Pro Ser Thr Pro Ala Ala Pro
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Lys Arg Arg Gly Ser Gly Ser Val Asp Glu Thr Leu Phe Ala Leu Pro
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Leu Lys Glu Gln Pro Gly Asn Thr Val Ser Ser Gly Gln Glu Asp Phe
195 200 205
Pro Ser Val Leu Phe Glu Thr Ala Ala Ser Leu Pro Ser Leu Ser Pro
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225 230 235 240
Ala Val Ala Ser Thr Glu Gly Thr Ile Glu Glu Thr Leu Asn Glu Ala
245 250 255
Ser Arg Glu Leu Pro Glu Arg Ala Thr Asn Pro Phe Val Asn Arg Glu
260 265 270
Ser Ala Glu Phe Ser Val Leu Glu Tyr Ser Glu Met Gly Ser Ser Phe
275 280 285
Asn Gly Ser Pro Lys Gly Glu Ser Ala Met Leu Val Glu Asn Thr Lys
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Glu Glu Val Ile Val Arg Ser Lys Asp Lys Glu Asp Leu Val Cys Ser
305 310 315 320
Ala Ala Leu His Asn Pro Gln Glu Ser Pro Ala Thr Leu Thr Lys Val
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Val Lys Glu Asp Gly Val Met Ser Pro Glu Lys Thr Met Asp Ile Phe
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Asn Glu Met Lys Met Ser Val Val Ala Pro Val Arg Glu Glu Tyr Ala

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His Thr Ser Glu Asn Lys Thr Asp Glu Lys Lys Ile Glu Glu Arg Lys
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Pro Ser Pro Glu Phe Ser Asn Tyr Ser Glu Ile Ala Lys Phe Glu Lys
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Ser Val Pro Asp His Cys Glu Leu Val Asp Asp Ser Ser Pro Glu Ser
705                 710                 715                 720
Glu Pro Val Asp Leu Phe Ser Asp Asp Ser Ile Pro Glu Val Pro Gln
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Thr Gln Glu Glu Ala Val Met Leu Met Lys Glu Ser Leu Thr Glu Val
            740                 745                 750
Ser Glu Thr Val Thr Gln His Lys His Lys Glu Arg Leu Ser Ala Ser
        755                 760                 765
Pro Gln Glu Val Gly Lys Pro Tyr Leu Glu Ser Phe Gln Pro Asn Leu
    770                 775                 780
His Ile Thr Lys Asp Ala Ala Ser Asn Glu Ile Pro Thr Leu Thr Lys
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Lys Glu Thr Ile Ser Leu Gln Met Glu Glu Phe Asn Thr Ala Ile Tyr
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Glu Val Ser Asn Lys Ser Glu Ile Ala Asn Val Gln Ser Gly Ala Asn
865                 870                 875                 880
Ser Leu Pro Cys Ser Glu Leu Pro Cys Asp Leu Ser Phe Lys Asn Thr
                885                 890                 895
Tyr Pro Lys Asp Glu Ala His Val Ser Asp Glu Phe Ser Lys Ser Arg
            900                 905                 910
Ser Ser Val Ser Lys Val Pro Leu Leu Leu Pro Asn Val Ser Ala Leu
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Glu Ser Gln Ile Glu Met Gly Asn Ile Val Lys Pro Lys Val Leu Thr
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Val Thr  Ala Tyr Ile Ala Leu  Ala Leu Leu Ser Val  Thr Ile Ser
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Phe Arg  Ile Tyr Lys Gly Val  Ile Gln Ala Ile Gln  Lys Ser Asp
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Glu Gly  His Pro Phe Arg Ala  Tyr Leu Glu Ser Glu  Val Ala Ile
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Ser Glu  Glu Leu Val Gln Lys  Tyr Ser Asn Ser Ala  Leu Gly His
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Val Asn  Ser Thr Ile Lys Glu  Leu Arg Arg Leu Phe  Leu Val Asp
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Asp Leu  Val Asp Ser Leu Lys  Phe Ala Val Leu Met  Trp Val Phe
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Thr Tyr  Val Gly Ala Leu Phe  Asn Gly Leu Thr Leu  Leu Ile Leu
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Ala Leu  Ile Ser Leu Phe Ser  Ile Pro Val Ile Tyr  Glu Arg His
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Gln Ala  Gln Ile Asp His Tyr  Leu Gly Leu Ala Asn  Lys Ser Val
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<213> Homo sapiens

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Asp Tyr Asp Arg Leu Arg Pro Leu Ser Tyr Pro Asp Thr Asp Val Ile
65 70 75 80
Leu Met Cys Phe Ser Ile Asp Ser Pro Asp Ser Leu Glu Asn Ile Pro
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Glu Lys Trp Thr Pro Glu Val Lys His Phe Cys Pro Asn Val Pro Ile
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Ile Leu Val Gly Asn Lys Lys Asp Leu Arg Asn Asp Glu His Thr Arg
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Arg Glu Leu Ala Lys Met Lys Gln Glu Pro Val Lys Pro Glu Glu Gly
130 135 140
Arg Asp Met Ala Asn Arg Ile Gly Ala Phe Gly Tyr Met Glu Cys Ser
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Asn Phe Asp Phe Val Thr Glu Thr Pro Leu Glu Gly Asn Phe Val Trp
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Glu Arg Val Arg Ser Leu Gly Leu Pro Lys Val Tyr Leu Ser Pro Gly
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<210> 17
<211> 425
<212> PRT

<213> Rattus norvegicus

<400> 17

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Cys Ser Thr Gly Leu Tyr Thr His Ser Gly Glu Cys Cys Lys Ala Cys
        35                  40                  45
Asn Leu Gly Glu Gly Val Ala Gln Pro Cys Gly Ala Asn Gln Thr Val
    50                  55                  60
Cys Glu Pro Cys Leu Asp Asn Val Thr Phe Ser Asp Val Val Ser Ala
65                  70                  75                  80
Thr Glu Pro Cys Lys Pro Cys Thr Glu Cys Leu Gly Leu Gln Ser Met
                85                  90                  95
Ser Ala Pro Cys Val Glu Ala Asp Asp Ala Val Cys Arg Cys Ala Tyr
            100                 105                 110
Gly Tyr Tyr Gln Asp Glu Glu Thr Gly His Cys Glu Ala Cys Ser Val
        115                 120                 125
Cys Glu Val Gly Ser Gly Leu Val Phe Ser Cys Gln Asp Lys Gln Asn
    130                 135                 140
Thr Val Cys Glu Glu Cys Pro Glu Gly Thr Tyr Ser Asp Glu Ala Asn
145                 150                 155                 160
His Val Asp Pro Cys Leu Pro Cys Thr Val Cys Glu Asp Thr Glu Arg
                165                 170                 175
Gln Leu Arg Glu Cys Thr Pro Trp Ala Asp Ala Glu Cys Glu Glu Ile
            180                 185                 190
Pro Gly Arg Trp Ile Pro Arg Ser Thr Pro Pro Glu Gly Ser Asp Ser
        195                 200                 205
Thr Ala Pro Ser Thr Gln Glu Pro Glu Val Pro Pro Glu Gln Asp Leu
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Val Pro Ser Thr Val Ala Asp Met Val Thr Thr Val Met Gly Ser Ser
225                 230                 235                 240
Gln Pro Val Val Thr Arg Gly Thr Thr Asp Asn Leu Ile Pro Val Tyr
                245                 250                 255
Cys Ser Ile Leu Ala Ala Val Val Val Gly Leu Val Ala Tyr Ile Ala
            260                 265                 270
Phe Lys Arg Trp Asn Ser Cys Lys Gln Asn Lys Gln Gly Ala Asn Ser
        275                 280                 285
Arg Pro Val Asn Gln Thr Pro Pro Pro Glu Gly Glu Lys Leu His Ser
    290                 295                 300
Asp Ser Gly Ile Ser Val Asp Ser Gln Ser Leu His Asp Gln Gln Thr
305                 310                 315                 320
His Thr Gln Thr Ala Ser Gly Gln Ala Leu Lys Gly Asp Gly Asn Leu
                325                 330                 335
Tyr Ser Ser Leu Pro Leu Thr Lys Arg Glu Glu Val Glu Lys Leu Leu
            340                 345                 350
Asn Gly Asp Thr Trp Arg His Leu Ala Gly Glu Leu Gly Tyr Gln Pro
        355                 360                 365
Glu His Ile Asp Ser Phe Thr His Glu Ala Cys Pro Val Arg Ala Leu
    370                 375                 380
Leu Ala Ser Trp Gly Ala Gln Asp Ser Ala Thr Leu Asp Ala Leu Leu
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Ala Ala Leu Arg Arg Ile Gln Arg Ala Asp Ile Val Glu Ser Leu Cys
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<210> 18
<211> 4167
<212> DNA
<213> Homo sapiens

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gctctggatg caatacactc catgggttta atacacagag atgtgaagcc tgacaacatg 660
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<210> 19
<211> 1388
<212> PRT
<213> Homo sapiens

<400> 19

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            20                  25                  30
Leu Ile Arg Asp Pro Arg Ser Pro Ile Asn Val Glu Ser Leu Leu Asp
        35                  40                  45
Gly Leu Asn Ser Leu Val Leu Asp Leu Asp Phe Pro Ala Leu Arg Lys
    50                  55                  60
Asn Lys Asn Ile Asp Asn Phe Leu Asn Arg Tyr Glu Lys Ile Val Lys
65                  70                  75                  80
Lys Ile Lys Gly Leu Gln Met Lys Ala Glu Asp Tyr Asp Val Val Lys
                85                  90                  95
Val Ile Gly Arg Gly Ala Phe Gly Glu Val Gln Leu Val Arg His Lys
            100                 105                 110
Ala Ser Gln Lys Val Tyr Ala Met Lys Leu Leu Ser Lys Phe Glu Met
        115                 120                 125
Ile Lys Arg Ser Asp Ser Ala Phe Phe Trp Glu Glu Arg Asp Ile Met
    130                 135                 140
Ala Phe Ala Asn Ser Pro Trp Val Val Gln Leu Phe Tyr Ala Phe Gln
145                 150                 155                 160
Asp Asp Arg Tyr Leu Tyr Met Val Met Glu Tyr Met Pro Gly Gly Asp
                165                 170                 175
Leu Val Asn Leu Met Ser Asn Tyr Asp Val Pro Glu Lys Trp Ala Lys
            180                 185                 190
Phe Tyr Thr Ala Glu Val Val Leu Ala Leu Asp Ala Ile His Ser Met
        195                 200                 205
Gly Leu Ile His Arg Asp Val Lys Pro Asp Asn Met Leu Leu Asp Lys
    210                 215                 220
His Gly His Leu Lys Leu Ala Asp Phe Gly Thr Cys Met Lys Met Asp
225                 230                 235                 240
```

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Glu Thr Gly Met Val His Cys Asp Thr Ala Val Gly Thr Pro Asp Tyr
                245                 250                 255
Ile Ser Pro Glu Val Leu Lys Ser Gln Gly Gly Asp Gly Phe Tyr Gly
            260                 265                 270
Arg Glu Cys Asp Trp Trp Ser Val Gly Val Phe Leu Tyr Glu Met Leu
        275                 280                 285
Val Gly Asp Thr Pro Phe Tyr Ala Asp Ser Leu Val Gly Thr Tyr Ser
    290                 295                 300
Lys Ile Met Asp His Lys Asn Ser Leu Cys Phe Pro Glu Asp Ala Glu
305                 310                 315                 320
Ile Ser Lys His Ala Lys Asn Leu Ile Cys Ala Phe Leu Thr Asp Arg
                325                 330                 335
Glu Val Arg Leu Gly Arg Asn Gly Val Glu Glu Ile Arg Gln His Pro
            340                 345                 350
Phe Phe Lys Asn Asp Gln Trp His Trp Asp Asn Ile Arg Glu Thr Ala
        355                 360                 365
Ala Pro Val Val Pro Glu Leu Ser Ser Asp Ile Asp Ser Ser Asn Phe
    370                 375                 380
Asp Asp Ile Glu Asp Asp Lys Gly Asp Val Glu Thr Phe Pro Ile Pro
385                 390                 395                 400
Lys Ala Phe Val Gly Asn Gln Leu Pro Phe Ile Gly Phe Thr Tyr Tyr
                405                 410                 415
Arg Glu Asn Leu Leu Leu Ser Asp Ser Pro Ser Cys Arg Glu Asn Asp
            420                 425                 430
Ser Ile Gln Ser Arg Lys Asn Glu Glu Ser Gln Glu Ile Gln Lys Lys
        435                 440                 445
Leu Tyr Thr Leu Glu Glu His Leu Ser Asn Glu Met Gln Ala Lys Glu
    450                 455                 460
Glu Leu Glu Gln Lys Cys Lys Ser Val Asn Thr Arg Leu Glu Lys Thr
465                 470                 475                 480
Ala Lys Glu Leu Glu Glu Glu Ile Thr Leu Arg Lys Ser Val Glu Ser
                485                 490                 495
Ala Leu Arg Gln Leu Glu Arg Glu Lys Ala Leu Leu Gln His Lys Asn
            500                 505                 510
Ala Glu Tyr Gln Arg Lys Ala Asp His Glu Ala Asp Lys Lys Arg Asn
        515                 520                 525
Leu Glu Asn Asp Val Asn Ser Leu Lys Asp Gln Leu Glu Asp Leu Lys
    530                 535                 540
Lys Arg Asn Gln Asn Ser Gln Ile Ser Thr Glu Lys Val Asn Gln Leu
545                 550                 555                 560
Gln Arg Gln Leu Asp Glu Thr Asn Ala Leu Leu Arg Thr Glu Ser Asp
                565                 570                 575
Thr Ala Ala Arg Leu Arg Lys Thr Gln Ala Glu Ser Ser Lys Gln Ile
            580                 585                 590
Gln Gln Leu Glu Ser Asn Asn Arg Asp Leu Gln Asp Lys Asn Cys Leu
        595                 600                 605
Leu Glu Thr Ala Lys Leu Lys Leu Glu Lys Glu Phe Ile Asn Leu Gln
    610                 615                 620
Ser Ala Leu Glu Ser Glu Arg Arg Asp Arg Thr His Gly Ser Glu Ile
625                 630                 635                 640
Ile Asn Asp Leu Gln Gly Arg Ile Cys Gly Leu Glu Glu Asp Leu Lys
                645                 650                 655
Asn Gly Lys Ile Leu Leu Ala Lys Val Glu Leu Glu Lys Arg Gln Leu
            660                 665                 670
Gln Glu Arg Phe Thr Asp Leu Glu Lys Glu Lys Ser Asn Met Glu Ile
        675                 680                 685
Asp Met Thr Tyr Gln Leu Lys Val Ile Gln Gln Ser Leu Glu Gln Glu
```

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    690                 695                 700
Glu Ala Glu His Lys Ala Thr Lys Ala Arg Leu Ala Asp Lys Asn Lys
705                 710                 715                 720
Ile Tyr Glu Ser Ile Glu Glu Ala Lys Ser Glu Ala Met Lys Glu Met
                725                 730                 735
Glu Lys Lys Leu Leu Glu Glu Arg Thr Leu Lys Gln Lys Val Glu Asn
            740                 745                 750
Leu Leu Leu Glu Ala Glu Lys Arg Cys Ser Leu Leu Asp Cys Asp Leu
        755                 760                 765
Lys Gln Ser Gln Gln Lys Ile Asn Glu Leu Leu Lys Gln Lys Asp Val
    770                 775                 780
Leu Asn Glu Asp Val Arg Asn Leu Thr Leu Lys Ile Glu Gln Glu Thr
785                 790                 795                 800
Gln Lys Arg Cys Leu Thr Gln Asn Asp Leu Lys Met Gln Thr Gln Gln
                805                 810                 815
Val Asn Thr Leu Lys Met Ser Glu Lys Gln Leu Lys Gln Glu Asn Asn
            820                 825                 830
His Leu Met Glu Met Lys Met Asn Leu Glu Lys Gln Asn Ala Glu Leu
        835                 840                 845
Arg Lys Glu Arg Gln Asp Ala Asp Gly Gln Met Lys Glu Leu Gln Asp
    850                 855                 860
Gln Leu Glu Ala Glu Gln Tyr Phe Ser Thr Leu Tyr Lys Thr Gln Val
865                 870                 875                 880
Arg Glu Leu Lys Glu Glu Cys Glu Glu Lys Thr Lys Leu Gly Lys Glu
                885                 890                 895
Leu Gln Gln Lys Lys Gln Glu Leu Gln Asp Glu Arg Asp Ser Leu Ala
            900                 905                 910
Ala Gln Leu Glu Ile Thr Leu Thr Lys Ala Asp Ser Glu Gln Leu Ala
        915                 920                 925
Arg Ser Ile Ala Glu Glu Gln Tyr Ser Asp Leu Glu Lys Glu Lys Ile
    930                 935                 940
Met Lys Glu Leu Glu Ile Lys Glu Met Met Ala Arg His Lys Gln Glu
945                 950                 955                 960
Leu Thr Glu Lys Asp Ala Thr Ile Ala Ser Leu Glu Glu Thr Asn Arg
                965                 970                 975
Thr Leu Thr Ser Asp Val Ala Asn Leu Ala Asn Glu Lys Glu Glu Leu
            980                 985                 990
Asn Asn Lys Leu Lys Asp Val Gln  Glu Gln Leu Ser Arg  Leu Lys Asp
        995                 1000                1005
Glu Glu  Ile Ser Ala Ala Ala  Ile Lys Ala Gln Phe  Glu Lys Gln
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Leu Leu  Thr Glu Arg Thr Leu  Lys Thr Gln Ala Val  Asn Lys Leu
    1025                1030                1035
Ala Glu  Ile Met Asn Arg Lys  Glu Pro Val Lys Arg  Gly Asn Asp
    1040                1045                1050
Thr Asp  Val Arg Arg Lys Glu  Lys Glu Asn Arg Lys  Leu His Met
    1055                1060                1065
Glu Leu  Lys Ser Glu Arg Glu  Lys Leu Thr Gln Gln  Met Ile Lys
    1070                1075                1080
Tyr Gln  Lys Glu Leu Asn Glu  Met Gln Ala Gln Ile  Ala Glu Glu
    1085                1090                1095
Ser Gln  Ile Arg Ile Glu Leu  Gln Met Thr Leu Asp  Ser Lys Asp
    1100                1105                1110
Ser Asp  Ile Glu Gln Leu Arg  Ser Gln Leu Gln Ala  Leu His Ile
    1115                1120                1125
Gly Leu  Asp Ser Ser Ser Ile  Gly Ser Gly Pro Gly  Asp Ala Glu
    1130                1135                1140
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Tyr Val  Ile Val Ser Ser Lys  Lys Ile Leu Phe Tyr  Asp Ser Glu
    1175                1180                1185
Gln Asp  Lys Glu Gln Ser Asn  Pro Tyr Met Val Leu  Asp Ile Asp
    1190                1195                1200
Lys Leu  Phe His Val Arg Pro  Val Thr Gln Thr Asp  Val Tyr Arg
    1205                1210                1215
Ala Asp  Ala Lys Glu Ile Pro  Arg Ile Phe Gln Ile  Leu Tyr Ala
    1220                1225                1230
Asn Glu  Gly Glu Ser Lys Lys  Glu Gln Glu Phe Pro  Val Glu Pro
    1235                1240                1245
Val Gly  Glu Lys Ser Asn Tyr  Ile Cys His Lys Gly  His Glu Phe
    1250                1255                1260
Ile Pro  Thr Leu Tyr His Phe  Pro Thr Asn Cys Glu  Ala Cys Met
    1265                1270                1275
Lys Pro  Leu Trp His Met Phe  Lys Pro Pro Pro Ala  Leu Glu Cys
    1280                1285                1290
Arg Arg  Cys His Ile Lys Cys  His Lys Asp His Met  Asp Lys Lys
    1295                1300                1305
Glu Glu  Ile Ile Ala Pro Cys  Lys Val Tyr Tyr Asp  Ile Ser Thr
    1310                1315                1320
Ala Lys  Asn Leu Leu Leu Leu  Ala Asn Ser Thr Glu  Glu Gln Gln
    1325                1330                1335
Lys Trp  Val Ser Arg Leu Val  Lys Lys Ile Pro Lys  Lys Pro Pro
    1340                1345                1350
Ala Pro  Asp Pro Phe Ala Arg  Ser Ser Pro Arg Thr  Ser Met Lys
    1355                1360                1365
Ile Gln  Gln Asn Gln Ser Ile  Arg Arg Pro Ser Arg  Gln Leu Ala
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Pro Asn  Lys Pro Ser
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<210> 20
<211> 11
<212> PRT
<213> Human adenovirus type 1

<400> 20
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<210> 21
<211> 6439
<212> DNA
<213> Human adenovirus type 1

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ggcctgttag aaacatcagg aggctgtaga caaatattga aacagctaca tccatctctt 240
cagacaggat cagaagaact taaatcatta tataatacag tagcaaccct ctattgtgtg 300
catcaaagga tagagataag agacaccaag gaagctttag acaagataga ggaagagcaa 360
aataaatgta agaaaaggga acagcaagca gcagctgaca caggaaacag cagccaggtc 420

agccaaaatt accctatagt gcagaacctc caggggcaaa tggtacatca gtccatatca 480
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<211> 495
<212> DNA
<213> Homo sapiens

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<213> Homo sapiens

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35 40 45
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35 40 45
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50 55 60
Phe Gln Cys Gln Val Cys Cys Phe Val Val His Lys Arg Cys His Glu
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Asp Pro Arg Ser Lys His Lys Phe Lys Ile His Thr Tyr Gly Ser Pro
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145 150 155 160
Arg Ile Tyr Leu Lys Ala Glu Val Thr Asp Glu Lys Leu His Val Thr
165 170 175
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180 185 190
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195 200 205
Lys Gln Lys Thr Lys Thr Ile Arg Ser Thr Leu Asn Pro Gln Trp Asn
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            420                 425                 430
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        435                 440                 445
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